

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022086**Date Inspected:** 11-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

OBG Trial Assembly, OBG Segment 12AW-12BW

This QA Inspector performed verification Ultrasonic Testing (ABF Request No: 01102011-1) in accordance with ABF/CT Pattern "D" UT Procedure 001 Revision 1. All recordable Indications if found were recorded on a separate data sheet that Caltrans QA generates after performing a joint inspection with ABF ultrasonic testing personnel. The location of the inspection was identified as welds between deck panels (DP) of segment 12AW to deck panels of segment 12BW. The weld designations were as;

OBW12-001 (12AW-12BW, DP-A1)

OBW12-002 (12AW-12BW, DP-A10)

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W

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Repair welding of weld joint no: SEG3020Y-030 [Bottom Plate (BP) 3091A to Longitudinal Diaphragm (LD) 3051A, Complete Joint Penetration (CJP) weld in between Panel Points (PP) 127~127.3]. The welder is identified as 066398 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2662 Rev-1.

Repair welding of weld joint no: SEG3020X-014 [Bottom Plate (BP) 3091A to Floor Beam (FB) 3049B, Complete Joint Penetration (CJP) weld in between Panel Points (PP) 126~127]. The welder is identified as 067520 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2662 Rev-1.

Repair welding of weld joint no: SEG3020Q-058 [Floor Beam (FB) 3320A to Longitudinal Diaphragm (LD) 3049A, Complete Joint Penetration (CJP) weld at Panel Point (PP) 126]. The welder is identified as 047864 and was observed welding in the 3G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-3G(3F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2620 Rev-1.

Repair welding of weld joint no: SEG3020X-011 [Bottom Plate (BP) 3091A to Longitudinal Diaphragm (LD) 3049AA, Complete Joint Penetration (CJP) weld in between Panel Points (PP) 125~125.5]. The welder is identified as 201215 and was observed welding in the 2G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-FCAW-2G(2F)-ESAB-REPAIR-FCM. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2659 Rev-1.

Repair welding of weld joint no: SEG3020X-012 [Bottom Plate (BP) 3091A to Longitudinal Diaphragm (LD) 3049AA, Complete Joint Penetration (CJP) weld in between Panel Points (PP) 125.5~126]. The welder is identified as 066734 and was observed welding in the 2G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-FCAW-2G(2F)-ESAB-REPAIR-FCM. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2659 Rev-1.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020BB-028 [Sub Assembly (SA) plate SA3446A to Bottom Plate (BP) 3089A, CJP weld in between panel point (PP) 125~126]. The welder is identified as 066695 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-2232-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020BB-001 [Sub Assembly (SA) plate SA3442A to Bottom Plate (BP) 3087A, CJP weld in between panel points (PP) 125~126]. The welder is identified as 067949 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-2232-ESAB.

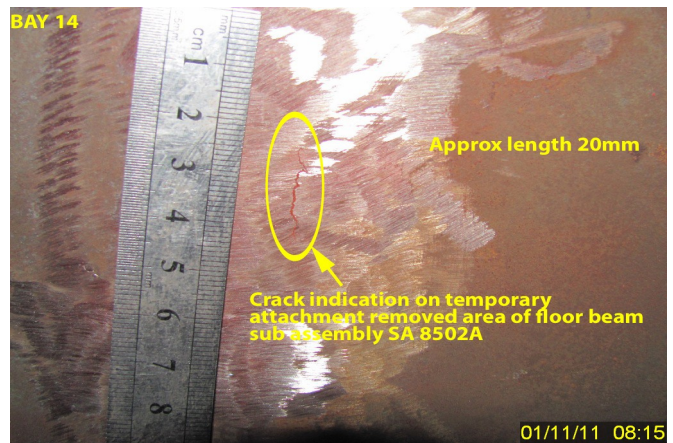
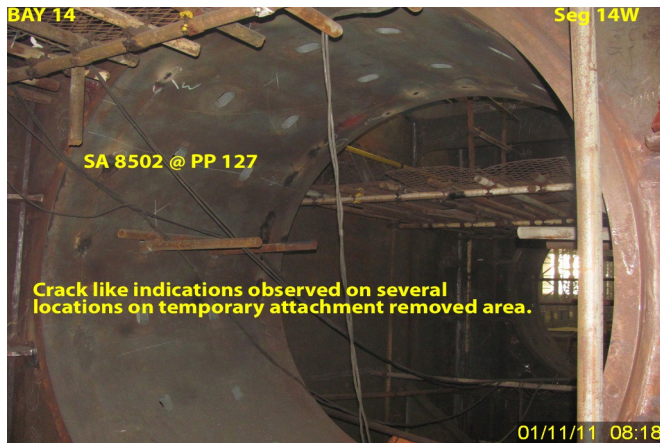
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The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020X-008 [Floor Beam (FB) 3327 to Longitudinal Diaphragm (LD) 3049B, CJP weld at panel point (PP) 127]. The welder is identified as 045175 and was observed welding in the 3G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-2233-ESAB.

During random in process inspection this QA inspector observed that crack like indications on the temporary attachment removed area of base metal of floor beam subassembly. These indications were observed visually and confirmed by Magnetic Particle Testing (MT). The components are identified as Sub Assembly (SA) Plate SA8502A joining to Floor Beam (FB) 3327 and SA3409A. This issue has been discussed with ZPMC CWI Mr. An Qing Xiang and CT lead QA. Mr. An Qing Xiang informed this QA that this issue would be corrected in manner comply with contract documents. Attached photograph provide additional details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

Inspected By: Gaikwad,Umesh

Quality Assurance Inspector

Reviewed By: Patterson,Rodney

QA Reviewer